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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,711	11/25/2003	Se-Yoon Kim	5000-1-482	6305
33942	7590	11/23/2005		
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			EXAMINER NGUYEN, TUAN N	
			ART UNIT 2828	PAPER NUMBER

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.



### DETAILED ACTION

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims to facilitate understanding of the invention. Therefore, *the planar lightwave circuit* feature(s) must be shown or describe. No new matter should be entered.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of 35 U.S.C. 102(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 4-7, 11, 14-17 are rejected under 35 U.S.C. 102(a) as being unpatentable over Sidorin et al. (US 6920159).

With respect to claims 1,11 Sidorin '159 discloses a wavelength tunable laser (ABSTRACT) having substrate (Fig 2: 210)(Col 4: 15-20) with planar lightwave circuit formed on semiconductor substrate (Fig 1: 100, 105, laser diode and wavelength reference device, 112 & 114 – planar light waveguide) (Col 4: 20-25) so that laser output is coupled to the waveguide where the waveguide is disposed on the substrate (Fig 1: 105, 114, 135, 150) (Col 4: 34-50, waveguide on substrate), where a clad is surround the waveguide (Col 5: 40-50, cladding layer), with a grating reflecting a plurality of light beams being carved into a portion of waveguide (Col 5: 40-55, cladding and DBR grating) (Fig 1: 150,125 carve on waveguide), and the semiconductor laser mounting on the substrate as Fabry-Perot laser having plurality of

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longitudinal mode (Fig 1: 105)(Col 4: 5-10)(Col 4-5). Since claim 11 recites the same or identical elements/limitations it is inherent to use patents ('159) to recite the method of creating a wavelength-tunable laser, product by process.

With respect to claims 4, 14 Sidorin '159 shows the substrate longitudinally has two ends (Fig 2: 115, 150), and the *laser disposed at one ends* and the *circuit at the other end* (Fig 1: 100, 105 laser diode, 112 & 114 – planar light waveguide).

With respect to claims 5,6, 15,16 (Fig 1: 105, 110, 120, 150) shows the laser on the substrate is in *direct light-communication* with the waveguide *without any intervening optics*.

With respect to claims 7, 17 (Col 7: 20-27) discloses the bonding pad for applying RF to the laser.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or non-obviousness.
5. Claims 2, 3, 8-10, 12, 13, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sidorin et al. (US 6920159) in view of Sugden et al. (US 6768098).

With respect to claims 2, 9, 12, 19 Sidorin '159 discloses the above. The claims further require that the grating is fabricated using both phase mask and amplitude mask together. Sugden et al. '098 disclose the method of fabricating the grating using the phase-mask and amplitude-mask together to Bragg grating (Col 2: 15-40). It would have been obvious to one of ordinary skill in the art to provide Sidorin et al. ('159) with the method of making grating taught or suggested by Sugden '098 for the benefit producing the desirable type of grating such as linear grating or chirped grating.

With respect to claims 3, 10, 13, 20 Sugden et al. '098 further discloses the grating is a moire' grating (Col 5: 5-40), for interference fiber grating fabrication method, to provide better mode selection while improving tunable characteristic.

With respect to claims 8, 18, the claim further require the bonding pad and the laser are wire-bonded to each other through a wire. It has been held that omission of an element in a combination where the remaining element perform the same function as before involves only routine skill in the art, in this case is the wire connecting between the source and the laser can be used so circuit's layout can vary to provide component compactness. *In re Karlson*, 136 USPQ 184.

***Communication Information***

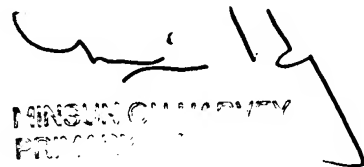
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F: 7:30 - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harvey Minsun can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan N. Nguyen

A handwritten signature in black ink, appearing to read "Tuan Nguyen", with a long, sweeping underline.A handwritten signature in black ink, appearing to read "Tuan N. Nguyen", with a long, sweeping underline. Below the signature is a rectangular stamp with the text "PATENT EXAMINER" and "FEBRUARY 12, 2014".